

THAT WHICH IS CLAIMED IS:

1. An electrical connection device arranged for connection to a machine cable, the device comprising:

a pin and a socket, each having engagement surfaces and one of the pin and the socket having a further surface that forms a wedging surface for the device, the pin and the socket being moveable relative to each other from a released position to an engaged position in which the engagement surfaces are engaged to form an electrical contact and

a wedge portion arranged to impart a force on the wedging surface on movement to the engaged position,

wherein the pin and the socket are arranged so that the engagement surfaces move into opposing relationship on movement to the engaged position and the force imparted on the wedging surface biases one of the opposing engagement surfaces against the other engagement surface.

2. The electrical connection device as claimed in claim 1 being arranged for delivery of a power of a few hundred kilowatts.

3. The electrical connection device as claimed in claim 1 arranged for delivery of power having an associated voltage of one or more kilovolts.

4. The electrical connection device as claimed in claim 1 wherein the wedge portion is not integrally formed with the pin or the socket.

5. The electrical connection device as claimed in claim 4 wherein the wedge portion comprises a material other than that of the pin or the socket.

6. The electrical connection device as claimed in claim 1 wherein the wedge portion is a part that is separable from the pin or the socket.

7. The electrical connection device as claimed in claim 1 wherein the wedge portion is adhered to a portion of the pin or the socket.
8. The electrical connection device as claimed in claim 1 wherein at least one of the pin and the socket have a marginal portion that includes the wedging surface and that has at least one gap that expands or reduces when the wedge portion imparts a force on the wedging surface so that the outer perimeter of the marginal portion expands or compresses respectively.
9. The electrical connection device as claimed in claim 8 wherein the socket includes the marginal portion.
10. The electrical connection device as claimed in claim 9 wherein the wedge portion is arranged such that, when the pin and the socket are moved relative to each other to the engaged position, the wedge portion compresses the marginal portion against the pin whereby the pin and the socket engage to establish the electrical connection.
11. The electrical connection device as claimed in claim 9 wherein the socket is of a longitudinal shape and the marginal portion is an end-portion.
12. The electrical connection device as claimed in Claim 1 wherein the wedge portion comprises a flexible material.
13. The electrical connection device as claimed in claim 12 wherein the flexible material is a polymeric material.
14. The electrical connection device as claimed in claim 1 wherein the wedge portion comprises an electrically conductive material.

15. The electrical connection device as claimed in claim 12 wherein the flexible material is a rubber.
16. The electrical connection device as claimed in claim 1 wherein the pin and the socket are of a generally round cross-section.
17. The electrical connection device as claimed in claim 1 wherein the wedge portion is provided in form of a ring-like portion positioned such that, when the pin and the socket are moved relative to each other towards the engaged position, the wedge portion wedges the end-portion of the socket against the pin.
18. The electrical connection device as claimed in claim 1 wherein the pin and the socket, when engaged, are surrounded by a sleeve.
19. The electrical connection device as claimed in claim 18 wherein the pin is secured in the sleeve.
20. The electrical connection device as claimed in claim 1 wherein the socket has an inner surface that has a substantially uniform internal diametrical dimension.
21. The electrical connection device as claimed in claim 1 wherein the socket has an inner surface that has a tapered region.
22. The electrical connection device as claimed in claim 21 wherein the tapered region separates a region of smaller interior diameter from a region of larger interior diameter.

23. The electrical connection device as claimed in claim 21 wherein the region of smaller interior diameter is not positioned at an end of the inner surface.
24. The electrical connection device as claimed in claim 23 wherein the region of the smaller interior diameter comprises the engagement surface and is arranged so that, when the wedge portion imparts a force on the wedging surface, the region of smaller interior diameter frictionally engages with the engagement surface of the pin.
25. The electrical connection device as claimed in claim 1 wherein the pin has an outer surface that has a substantially uniform external diametrical dimension.
26. The electrical connection device as claimed in claim 1 wherein the pin has an outer surface that has a tapered region.
27. The electrical connection device as claimed in claim 26 wherein the tapered region separates a region of smaller exterior diameter from a region of larger exterior diameter.
28. The electrical connection device as claimed in claim 27 wherein the region of the larger exterior diameter comprises the engagement surface and is arranged so that, when the wedge portion imparts a force on the wedging surface, the region of larger exterior diameter frictionally engages with the engagement surface of the socket.
29. The electrical connection device as claimed in claim 27 wherein the region of larger exterior diameter is not positioned at an end of the outer surface.

30. The electrical connection device as claimed in claim 8 wherein the gap is one of a plurality of longitudinal gaps that split the socket into three or more fingers.

31. The electrical connection device as claimed in claim 30 wherein the fingers are substantially equal.

32. The electrical connection device as claimed in claim 1 comprising at least two wedge portions and wherein both the first and the second part have wedging surfaces, the wedge portions being arranged to impart a force on respective wedging surfaces to bias respective opposing engagement surfaces against each other.

33. A method of connecting a pin and a socket of an electrical connection device arranged for connection to a machine cable, the method comprising the steps of

moving the pin and the socket relative to each other towards a position at which the pin and the socket are engaged, the pin and the socket having engagement surfaces and at least one of the pin and the socket having an additional wedging surface, the pin and the socket being arranged so that during engagement the engagement surface of the pin opposes the engagement surface of the socket and

wedging a wedging portion to impart a force on the wedging surface wherein the pin and the socket are arranged so that the force causes pressing of one of the opposing engagement surfaces against the other engagement surface to establish an electrical contact.

34. An electrical connection device arranged for connection to a machine cable, the device comprising:

a pin and a socket, the pin and the socket being moveable relative to each other from a released position to an engaged position, at least one of the

pin and the socket having a marginal portion that is compressible or expandable in at least one direction and

a wedge portion arranged such that, when the pin and the socket are moved relative to each other towards the engaged position, the wedge portion expands or compresses the marginal portion whereby the pin and the socket engage.